

Public Health and Preventive Medicine

Chronic Obstructive Lung Disease

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One of a series of articles from western state public health departments

From 1979 to 1980, the two most recent years for which there are data, the percentage increase in the chronic obstructive lung disease (COLD) mortality clearly surpassed that of every other leading chronic cause of death. COLD, also known as chronic obstructive pulmonary disease (COPD), now ranks as the fifth leading cause of death in California and is recognized, along with other smoking-related diseases such as lung cancer and coronary heart disease, as a major cause of preventable death.¹

While data between 1950 and 1980 are not strictly comparable, mortality from COLD during that 30-year period rose from 8.8 per 100,000 (0.9% of all deaths) to 25.8 per 100,000 (3.3%). Death rates from this growing group of diseases doubled between 1950 and 1960 and the mortality rate from a single disease—emphysema—increased a dramatic fourfold during the same period.² Moreover, in 1960 COLD appeared among the ten leading causes of death for the first time, ranking ninth and causing 1.9% of all deaths. During the last two decades, mortality from COLD has continued to increase but at a slower rate. More recently, the percentage changes in the number and rate of COLD deaths increased 14.7% and 12.7%, respectively, from 1979 to 1980.³ These changes were surpassed only by influenza and homicide and by no chronic conditions. Over the past decade death rates from COLD were highest among whites and males, although the relative rate of increase over time was greater for women—a phenomenon thought to be attributable to the smoking behavior of women.⁴

In order to define those diseases qualifying as COLD, the American Lung Association and the California State Department of Health Services convened a panel of pulmonary experts chaired by Kenneth Moser, MD, of the University of California, San Diego. The approach selected was to categorize all possible COLD subdiagnoses from *International Classification of Diseases* (ICDA) Eighth and Ninth revisions (ICDA-8, ICDA-9) and adopt that terminology upon which a con-

sensus was reached. Codes accepted for use under ICDA-9 fell under a rubric entitled "chronic obstructive pulmonary diseases and allied conditions" (ICDA-9 Codes 490-496). Although not strictly comparable, disease entities accepted under ICDA-8 were unqualified bronchitis, chronic bronchitis, emphysema, asthma, chronic interstitial pneumonia, bronchiectasis and COLD without mention of asthma, bronchitis and emphysema (ICDA-8 Codes 490-493, 517, 518, 519.3).^{5,6}

Under ICDA-8, changes in the certification of COLD deaths (specifically an increased use of ICDA-8 code 519.3—COLD without mention of asthma, bronchitis and emphysema—instead of more specific COLD entities) resulted in an apparent decrease in COLD mortality. During the 1970s, deaths from asthma, chronic and unqualified bronchitis and emphysema all appeared to be decreasing. During 1971, the initial year of its utilization, code 519.3 was assigned to 675 deaths, or 15.4% of all COLD deaths. By 1978 this percentage had risen to nearly 50% of all COLD mortality, or 2,853 deaths. The increase in mortality due to code 519.3 more than compensated for the decline in rates from asthma, bronchitis and emphysema combined.

Since these mortality statistics reflect only underlying causes of death certified as being due to COLD, cause-specific mortality rates seriously underrepresent true COLD mortality. Data extracted from multiple cause of death tapes supplied by the National Center for Health Statistics indicate, for example, that for every death certified as due to emphysema in 1978, there were nearly two others where emphysema was listed as an "other" condition present at the time of death (California Department of Health Services, Center for Health Statistics, unpublished data).

Other researchers have shown that COLD has been underreported on death certificates, and the true mortality rate from this disease is probably underestimated by vital statistics death rates.⁷

In spite of the problems encountered in preparing a

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ABBREVIATIONS USED IN TEXT

COLD=chronic obstructive lung disease
 ICDA-8, ICDA-9=*International Classification of Diseases*, Eighth and Ninth revisions

definitive study of COLD in California, it was clear that COLD, although underreported on death certificates, is a major and growing public health problem. As such, it deserves our careful and thoughtful attention to its identification, causes, treatment and prevention.

Mortality from other leading causes of California deaths—such as cardiovascular disease, cerebrovascular disease and accidents—has decreased in the period during which rates from COLD have shown dramatic increases. This should alert the medical community to the increasing importance of COLD as a leading cause of death.⁸

Studies have shown that cigarette smoking is the leading contributor to the development of bronchitis and emphysema.⁹ These facts, in combination with the staggering economic and health costs related to two other major smoking-related diseases—lung cancer and heart disease—should continue to alert health professionals to the growing need for developing statistical reporting systems to improve disease definition and surveillance, and for research to determine feasible interventions to delay, mitigate or prevent COLD.¹⁰

Equal time and energy must be devoted to promoting effective strategies to prevent the onset and increase of those diseases with known behavioral or causative factors.

As health professionals committed to disease prevention and health care cost containment, we must aggressively pursue all the opportunities and resources available to encourage and educate the public to adopt healthy, nonsmoking life-styles.

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